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IS 11596 (1986): Grading of Uncut Indian Bimli [TXD 3: Jute and Jute Products]

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"Knowledge is such a treasure which cannot be stolen"

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Indian Standard

SPECIFICATION FOR
GRADING OF UNCUT INDIAN BIMLI

UDC 677·142 : 006·73

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR
GRADING OF UNCUT INDIAN BIMLI

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Indian Standard

SPECIFICATION FOR
GRADING OF UNCUT INDIAN BIMLI

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 January 1986, after the draft finalized by the Jute and Jute Products Sectional Committee had been approved by the Textile Division Council.

0.2 Grading of white, tossa and daisee uncut Indian jute has been covered in IS : 271-1975* which now forms the established basis of grading of raw jute.

0.3 Grading of uncut Indian mesta has been covered in IS : 9846-1981†. This standard covers grading of Bimli fibre grown specially in Andhra Pradesh. In this standard, four grades have been prescribed for Bimli. A scoring scheme has been included to grade the fibres on the basis of strength, defects, root content, colour, fineness and heaviness or lightness.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960‡. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers grading of Bimli fibres from which roots have not been cut.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Bimli — Bimli fibres are exclusively grown in Andhra Pradesh and are generally associated with underground roots since the plants are

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*Grading of white, tossa and daisee uncut Indian jute (*second revision*).
†Grading of uncut Indian mesta.
‡Rules for rounding off numerical values (*revised*).

uprooted during harvesting. It is obtained from the bark of *Hibiscus sabdarifa*, a substitute for jute. It is generally inferior and coarser than jute. Chemically, the fibre is different from jute in its low lignin content.

2.2 Parcel — Consignment containing a certain number of bales, bundles or drums.

2.3 Strength — The ability of the fibres to resist strain or rupture induced by external forces.

2.3.1 The strength aspect of the fibres is classified depending upon their tenacity. The terms used for the purpoes of grading are 'Good', 'Fair', 'Average' and 'Weak mixed'.

NOTE 1 — Tenacity is the breaking load of a material under test divided by the linear density of the unstrained material, expressed as grams per tex.

NOTE 2 — Linear density is the mass per unit length; the quotient obtained by dividing the mass of the fibre or yarn by its length. When the mass is expressed in grams and the length in kilometres, the resulting value, that is, the quotient, is expressed as tex.

2.4 Colour — The property of fibre which distinguishes its appearance as creamy, white, grey, etc.

2.4.1 The colour description of fibres in relation to the terms used for the purpose of grading is given below:

Good	Creamy to whitish
Average	Greyish to dark

2.5 Fineness — A measure of diameter (width) or mass per unit length, or both, of the fibre filament. The finer the fibre, the better is its spinning quality.

2.5.1 The fineness aspect of the fibre is classified depending upon its tex value (*see* Note 2 under **2.3.1**).

2.6 Reed — The fibre system from the individual Bimli plant.

2.7 Reed Length — The length of the reed from bottom to tip excluding the underground root portions.

2.8 Effective Reed Length — The length of the reed after the root and hard barky croppy ends have been removed.

2.9 Root — The hard barky region at the lower end of the reed which requires additional softening treatment normally called 'cuttings'. This includes the underground root portion.

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2.10 Centre Root (*Buckchhal*) — The hard barky region in the middle part of the reed which requires additional softening treatment.

2.11 Dazed Fibre — Fibre which is weak in strength and full in appearance, due to usually being stored in moist condition.

2.12 Over-Retted Fibre — Fibre which has lost its strength and brightness due to prolonged retting.

2.13 Runners — Hard barky fibre running from the lower end to the middle region, more or less continuously.

2.14 Knots — Stiff barky spots in the body of the reed which break the continuity of the fibres when opened.

2.15 Mossy Fibre — A type of vegetation which sometimes gets attached to the Bimli plant.

2.15.1 Its portions may remain on the fibre even after retting and washing. It can be separated by hand.

2.16 Sticks, Entangled Sticks and Loose Sticks — Sticks are remnants of woody part of Bimli plant over which fibre sheath is formed. Entangled sticks are broken sticks which are linked with fibre mass and are not easily removable. Loose sticks are broken sticks easily removable by shaking.

2.17 Croppy Fibre — Fibre with top ends rough and hard (but not barky) caused by careless retting.

2.18 Weak Croppy Fibre — Fibre which has become unusually weak over a length of about 30 cm at the top end.

2.19 Entangled Croppy End Fibre — Fibre with unusually entangled croppy end.

2.20 Gummy Fibre — Fibres held together by undissolved pectinous matter.

2.21 Leaf and Loose Leaf — Leaf is the dark grey leafy or paper like substance (remnant of the skin of the plant) appearing on the strand. Loose leaves are those that lie loosely on the fibre and are easily removable.

2.22 Specks — Soft barky spots in the body where fibres can be separated with some effort without breaking their continuity, though they may remain as weak spots.

2.23 Natural Dust — The dust which might get associated with the fibre during the process of its production.

2.24 *Habi Jabi* — Tangled and ravelled Bimli of any description free of sticks.

2.25 *Feswa* — Pickings of the fibre left over in the sticks of the plant after extraction of the major fibre in the process of stripping after retting.

2.26 Defects

2.26.1 *Major* — Entangled croppy end fibre, centre root, dazed and over-retted fibres, runners, knots and entangled sticks.

2.26.2 *Minor* — Croppy fibre, weak croppy fibre, gummy fibre, loose sticks, specks, leaves and mossy fibre.

3. UNIT OF GUARANTEE

3.1 The unit of guarantee shall be a bale, bundle or drum made of *morahs* or 'heads'. For purposes of appraisement, each such bale, bundle or drum shall be treated as a separate unit and shall, in itself, fulfil the guarantee of the grade.

4. GRADING

4.1 The Bimli fibre (from which roots have not been cut) shall be classified into 4 grades as given in Table 1.

4.2 The 'hand and eye' method may be used for assessing these qualities as is presently in vogue in trade but in case of any dispute, the corresponding test method applicable for jute, mesta and Bimli as mentioned in the table may also be followed for correct assessment on scientific basis.

> NOTE — According to the trade practice for comparing strength, the tufts of fibres of approximately equal size held equal distance apart, are broken longitudinally without jerk. Good lustre indicates good fibre strength. Root content in terms of percentage by mass is judged by observing the extent of roots along the length. Light or heavy bodiedness of the fibre is assessed by feeling the lightness or heaviness of a bunch of fibre reeds (by raising and lowering) when held within a grip.

4.3 Relative weightage to each of the quality characteristics is attributed by a system of scoring for various grades by 'hand and eye' method for routine grading. The marks allocated are on the basis of the objective assessment of the different quality characteristics and as such shall be used for the purpose of grading on the basis as given in Table 1.

5. PACKING

5.1 The Bimli fibre should be so packed that *morahs* in any bale, bundle or drum are of only one grade.

5.2 Each bale, bundle or drum should have a grade tag indicating the year of harvest, grade and trademark.

TABLE 1 REQUIREMENTS OF FIBRE CHARACTERISTICS AND SCORING SCHEME FOR DIFFERENT GRADES OF UNCUT INDIAN BIMLI

(*Clauses* 4.1 *and* 4.3)

Grade	Strength	Defects	Maximum Root Content, Per-cent by Mass (Weight)	Colour	Fineness	Heaviness/ Lightness	Total Score
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
B-1	Good	Free from major defects and croppy fibre and reasonably free from leaves and specks	10	Good	Fine, well segregated fibre reeds	Heavy	
	(25)	(30)	(30)	(6)	(3)	(6)	100
B-2	Fair	Substantially free from major defects except some knots and entangled sticks but free from weak croppy ends	(18)	Average	Coarse	Average	
	(18)	(24)	(22)	(2)	(1)	(3)	70
B-3	Average	Free from centre roots and reasonably free from over-retted fibres and runners	(25)	—	—	—	
	(10)	(15)	(15)	—	—	—	40
B-4		All other Bimli not conforming to any of the above grades but of commercial value. It may contain *Habi Jabi* but not *Feswa*		—	—	—	
		(10)					

(*Continued*)

TABLE 1 REQUIREMENTS OF FIBRE CHARACTERISTICS AND SCORING SCHEME FOR DIFFERENT GRADES OF UNCUT INDIAN BIMLI — *Contd*

NOTE 1 — The minimum reed length should be 150 cm or the effective reed length should not be less than 100 cm except for grade B-4. The root content includes hard barky croppy ends. For determination of strength, defects, root content, fineness, heaviness or lightness (bulk density) relevant part of IS : 7032* should be referred.

NOTE 2 — The fibre should be in dry storable condition.

NOTE 3 — The fibre should be free from mud and other foreign materials.

NOTE 4 — Natural dust may be allowed in Grade B-2, B-3 and B-4 with proportionate discount.

NOTE 5 — A parcel of Bimli which would not score full marks for a particular grade shall still be considered for that grade with suitable discount to be settled between the buyer and the seller provided its score is not less by 50 (or more) percent of the difference between the maximum scores for that and the next lower grade. When the score is less by 50 (or more) percent of the difference, the buyer will have the option to reject or settle with a suitable discount.

NOTE 6 — Scores in the table may be taken as guidance for determining the discount.

*Physical methods of test for white, tossa and daisee uncut Indian jute:

    Part 1 General
    Part 2 Reed length
    Part 3 Root content
    Part 4 Defects
    Part 5 Foreign matter
    Part 6 Bulk density
    Part 7 Bundle strength
    Part 8 Fineness

Members	Representing
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Shri Uma Shankar Halder	Jute Growers, West Bengal
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INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Definition
Force	newton	N	$1 \ N = 1 \ kg.m/s^2$
Energy	joule	J	$1 \ J = 1 \ N.m$
Power	watt	W	$1 \ W = 1 \ J/s$
Flux	weber	Wb	$1 \ Wb = 1 \ V.s$
Flux density	tesla	T	$1 \ T = 1 \ Wb/m^2$
Frequency	hertz	Hz	$1 \ Hz = 1 \ c/s \ (s^{-1})$
Electric conductance	siemens	S	$1 \ S = 1 \ A/V$
Electromotive force	volt	V	$1 \ V = 1 \ W/A$
Pressure, stress	pascal	Pa	$1 \ Pa = 1 \ N/m^2$